## **Game Theory Worksheet**

CSCI 364: Artificial Intelligence December 17, 2021

In class today, we are going to play two short games with each other: (1) Paper-Rock-Scissors and Choose a Restaurant.

## Paper-Rock-Scissors

Paper-Rock-Scissors is a classic two-player children's game where each player makes a choice amongst three possible actions: Paper, Rock, or Scissors. The winner is determined by the choices made by the players:

If the choices are Rock and Scissors, then the player who chose <u>Rock</u> wins
If the choices are Rock and Paper, then the player who chose <u>Paper</u> wins
If the choices are Scissors and Paper, then the player who chose <u>Scissors</u> wins
If both players choose the same action, the round is a draw and another round is played

More generally: Rock beats Scissors beats Paper beats Rock.

Please pair up with a neighbor and play Paper-Rock-Scissors until one of you wins. Count down 3, 2, 1, then after the 1 tell the other person your choice of action. Record which action you chose and what action your neighbor chose. Repeat with 3-5 neighbors.

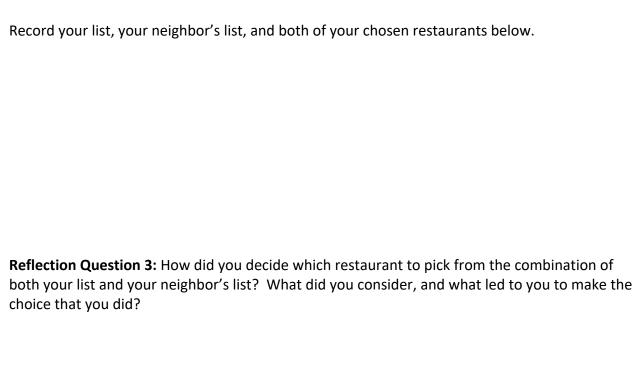
**Reflection Question 1**: How did you decide which action to choose? Did your decision-making process change from neighbor to neighbor?

**Reflection Question 2**: What thoughts did you have about how your neighbor would choose actions?

## **Choose a Restaurant**

Once again, find a neighbor to play a game with. Your goal is to try to collectively pick a restaurant to eat at tonight. Each of you should do the following

- Tell your neighbor about your three favorite restaurants in Oberlin in ranked order (e.g., #1 Thini Thai, #2 Kim's Carryout, #3 Feve)
- 2) From your list and your neighbor's list, individually decide on a single restaurant that you want to go eat at tonight.
- 3) Once both people have chosen where to go, share your choice with your neighbor. Do not share until both have individually decided.



**Reflection Question 4:** Did you both choose the same restaurant? What could you have done differently to make sure that you both chose the same place to eat?